



Test Report No:  
**3919ERM.006**

## Partial Test report

**USA FCC Part 15.207, 15.209, 15.247, 15.249, 15.407, Part 90  
CANADA RSS-Gen, RSS-140, RSS-210, RSS-247**

|                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|-------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| (*) Identification of item tested         | Alarm Control Panel with integrated security and automation support                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| (*) Trademark                             | JCI/TYCO                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| (*) Model and /or type reference          | IQ Pro P                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Other identification of the product       | FCC ID: F5322IQPRO<br>IC ID: 160A-IQPRO; HVIN: IQ Pro P<br>IMEI: 86139404<br>Hw version: QB94Hx Rev. 0C / UA746 Rev. 01<br>Sw version: 4.2.0n                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| (*) Features                              | Wi-Fi 2.4GHz/5GHz, BLE, PowerG, Z-Wave, LTE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Manufacturer                              | Tyco Safety Products Canada Ltd.<br>3301 Langstaff Rd.,<br>Concord, ON L4K 4L2<br>Canada                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Test method requested, standard           | USA FCC Part 15.247, 10-1-20 Edition: Operation within the bands 902 - 928 MHz, 2400 -2483.5 MHz, and 5725 - 5850 MHz<br>USA FCC Part 15.249 10-1-20 Edition: Operation within the bands 902 - 928 MHz, 2400 -2483.5 MHz, 5725 - 5875 MHz, and 24.0 – 24.25 GHz.<br>USA FCC Part 15.407 10-1-20 Edition: Unlicensed National Information Infrastructure Devices. General technical requirements.<br>USA FCC Part 15.209 10-1-20 Edition: Radiated emission limits; general requirements.<br>CANADA RSS-Gen Issue 5 (April 2018).<br>CANADA RSS-140 Issue 1 (April 2018).<br>CANADA RSS-210 Issue 10 (December 2019).<br>CANADA RSS-247 Issue 2 (February 2017).<br>47 CFR FCC Part 90 Subpart R<br>FCC KDB 971168 D01 v03r01 Power Meas License Digital Systems<br>FCC KDB 558074 D01 15.247 Meas Guidance v05r02. Guidance for Compliance Measurements on Digital Transmission Systems, Frequency Hopping Spread Spectrum System, and Hybrid System Devices Operating Under section §15.247 of the FCC Rules<br>ANSI C63.10-2013: American National Standard for Testing Unlicensed Wireless Devices. |
| Summary                                   | See Appendix A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Approved by (name / position & signature) | Domingo Galvez<br>EMC&RF Lab Manager                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Date of issue                             | 06-01-2023                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Report template No                        | FDT08_23<br>(*) "Data provided by the client"                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |

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## Acronyms

| Acronym ID     | Acronym Description                |
|----------------|------------------------------------|
| # of Tx Chains | Number of Transmission Chains      |
| BEL            | Band Edge Left                     |
| BER            | Band Edge Right                    |
| DC             | Duty Cycle                         |
| Freq           | Frequency                          |
| Freq Rng       | Frequency Range                    |
| Lvl Meas Pk    | Level Pre Measurement Peak         |
| MP             | Measurement Point                  |
| MU             | Medium Utilization Factor          |
| Max EIRP       | Maximum Burst EIRP                 |
| Max RMS        | Maximum Burst RMS                  |
| Max Tx Seq     | Maximum Transmission Sequence Time |
| Min Tx Gap     | Minimum Transmission Gap Time      |
| Mod            | Modulation                         |
| Occ Ch BW      | Occupied Channel Bandwidth         |
| PSD            | Power Spectrum Density             |
| Port           | Active Port                        |
| T              | Temperature                        |
| Unwanted Freq  | Unwanted Emissions Frequency       |
| Unwanted Lvl   | Unwanted Emissions Level           |

## Competences and guarantees

DEKRA Certification Inc. is a testing laboratory accredited by A2LA (The American Association for Laboratory Accreditation), to perform the tests indicated in the Certificate 2764.01

DEKRA Certification Inc. is a testing laboratory competent to carry out the tests described in this report.

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DEKRA Certification Inc. is liable to the client for the maintenance of the confidentiality of all information related to the item under test and the results of the test.

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## General conditions

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## Uncertainty

Uncertainty (factor k=2) was calculated according to the DEKRA Certification internal document PODT000.

| Test case                  | Frequency (MHz) | U (k=2) | Units |
|----------------------------|-----------------|---------|-------|
| Radiated Spurious Emission | 30-180          | 4.27    | dB    |
|                            | 180-1000        | 3.14    | dB    |
|                            | 1000-18000      | 3.30    | dB    |
|                            | 18000-40000     | 3.49    | dB    |

## Data provided by the client

The following data has been provided by the client:

1. Information relating to the description of the sample ("Identification of the item tested", "Trademark", "Model and/or type reference tested").
2. The sample consists of The Alarm Control Panel supports wireless and wired initiating devices, communication with supervising station using cellular LTE and Ethernet communication paths. There are two configurations available: IQ Pro using metal enclosure and IQ Pro P using plastic enclosure, only differences are the use of antennas mounted outside the metal enclosure.

DEKRA declines any responsibility with respect to the information provided by the client and that may affect the validity of results.

## Usage of samples

Samples undergoing test have been selected by: The client.  
Sample S/01 is composed of the following elements, accessories and auxiliary equipment:

| Id   | Control Number | Description         | Manufacturer/ Model    | Serial N°              | Date of Reception | Application        |
|------|----------------|---------------------|------------------------|------------------------|-------------------|--------------------|
| S/01 | 3919/01        | Sample + AC Adapter | JCI - Tyco. / IQ Pro P | QPR0051052235B00013P00 | 01/31/2023        | Element Under Test |

1. Sample S/01 was used for the test(s): All test(S) indicated in appendix A.

## Test sample description

Test Sample description (compulsory information for EMC and RF testing services)

|                                               |                                                               |                                |                          |                                     |                          |                          |                          |
|-----------------------------------------------|---------------------------------------------------------------|--------------------------------|--------------------------|-------------------------------------|--------------------------|--------------------------|--------------------------|
| Ports..... :                                  | Port name and description                                     |                                | Cable                    |                                     |                          |                          |                          |
|                                               |                                                               |                                | Specified length [m]     | Attached during test                | Shielded                 | Coupled to patient       |                          |
|                                               | 18Vdc+/- (DC input)                                           |                                | 6                        | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |                          |
|                                               | BELL +/- (Bell output)                                        |                                | 6                        | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |                          |
|                                               | CORBUS (RED/BLK/YEL/GRN) (System communication bus)           |                                | 6                        | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |                          |
|                                               | AUX1/AUX2 +/- (two auxiliary power outputs)                   |                                | 6                        | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |                          |
|                                               | PGM1-PGM4 (four programmable outputs)                         |                                | 6                        | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |                          |
|                                               | Z1/COM- Z8/COM (Eight zone Inputs)                            |                                | 6                        | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |                          |
| Supplementary information to the ports..... : | Use quad wires, 22AWG connected to all ports on UA746 Rev. 01 |                                |                          |                                     |                          |                          |                          |
| Rated power supply .....                      | Voltage and Frequency                                         |                                | Reference poles          |                                     |                          |                          |                          |
|                                               |                                                               |                                | L1                       | L2                                  | L3                       | N                        | PE                       |
|                                               | <input checked="" type="checkbox"/>                           | AC: 120Vac/60Hz                | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|                                               | <input type="checkbox"/>                                      | AC:                            | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|                                               | <input checked="" type="checkbox"/>                           | DC: 18Vdc/2.2A                 |                          |                                     |                          |                          |                          |
|                                               | <input type="checkbox"/>                                      | DC:                            |                          |                                     |                          |                          |                          |
| Rated Power .....                             | 40W                                                           |                                |                          |                                     |                          |                          |                          |
| Clock frequencies .....                       | 12MHz, 24MHz, 39MHz                                           |                                |                          |                                     |                          |                          |                          |
| Other parameters.....                         | No Data Provided                                              |                                |                          |                                     |                          |                          |                          |
| Software version .....                        | 4.2.0n                                                        |                                |                          |                                     |                          |                          |                          |
| Hardware version.....                         | QB94Hx Rev. 0C/UA746 Rev. 01                                  |                                |                          |                                     |                          |                          |                          |
| Dimensions in cm (W x H x D) .....            | 34 x 48 x 12.5                                                |                                |                          |                                     |                          |                          |                          |
| Mounting position..... :                      | <input type="checkbox"/>                                      | Table top equipment            |                          |                                     |                          |                          |                          |
|                                               | <input checked="" type="checkbox"/>                           | Wall/Ceiling mounted equipment |                          |                                     |                          |                          |                          |
|                                               | <input type="checkbox"/>                                      | Floor standing equipment       |                          |                                     |                          |                          |                          |
|                                               | <input type="checkbox"/>                                      | Hand-held equipment            |                          |                                     |                          |                          |                          |
|                                               | <input type="checkbox"/>                                      | Other:                         |                          |                                     |                          |                          |                          |
| Modules/parts .....                           | Module/parts of test item                                     |                                | Type                     |                                     | Manufacturer             |                          |                          |
|                                               | QB94Hx Rev. 0C (motherboard)                                  |                                | PCB                      |                                     | Tyco                     |                          |                          |
|                                               | UA746 Rev. 01 (hardwired zone inputs)                         |                                | PCB                      |                                     | Tyco                     |                          |                          |
|                                               | UA757 Rev. 01/UA758 Rev. 02 (PSU/connections)                 |                                | PCB                      |                                     | Tyco                     |                          |                          |
|                                               | UA762 Rev. 02 (external antennas board)                       |                                | PCB                      |                                     | Tyco                     |                          |                          |

| Accessories (not part of the test item)..... : | Description                                                                          | Type                                       | Manufacturer |
|------------------------------------------------|--------------------------------------------------------------------------------------|--------------------------------------------|--------------|
|                                                | Power Adapter HS40WPSNA                                                              | Power Adapter                              | SOY          |
|                                                | The product shall be tested for conducted emissions in conjunction with this adapter |                                            |              |
| Documents as provided by the applicant .....   | Description                                                                          | File name                                  | Issue date   |
|                                                | Declaration Equipment Data                                                           | FDT30_18 Declaration Equipment Data signed | 04/12/2023   |
|                                                | Block Diagram and Technical Description                                              |                                            |              |
|                                                | Parts List                                                                           |                                            |              |
|                                                | Schematics                                                                           |                                            |              |
|                                                | FCC/ISED applications                                                                |                                            |              |

**Copy of marking plate:**



## Identification of the client

Tyco Safety Products Canada Ltd.  
3301 Langstaff Rd., Concord,  
ON L4K 4L2,  
Canada

## Testing period and place

|                      |                          |
|----------------------|--------------------------|
| <b>Test Location</b> | DEKRA Certification Inc. |
| <b>Date (start)</b>  | 05-17-2023               |
| <b>Date (finish)</b> | 05-30-2023               |

## Document history

| Report number | Date       | Description   |
|---------------|------------|---------------|
| 3919ERM.006   | 06-01-2023 | First release |

## Environmental conditions

In the control chamber, the following limits were not exceeded during the test:

|                   |                                     |
|-------------------|-------------------------------------|
| Temperature       | Min. = 15 °C<br>Max. = 35 °C        |
| Relative humidity | Min. = 30 %<br>Max. = 75 %          |
| Air pressure      | Min. = 860 mbar<br>Max. = 1060 mbar |

In the semi-anechoic chamber, the following limits were not exceeded during the test.

|                   |                                     |
|-------------------|-------------------------------------|
| Temperature       | Min. = 15 °C<br>Max. = 35 °C        |
| Relative humidity | Min. = 30 %<br>Max. = 75 %          |
| Air pressure      | Min. = 860 mbar<br>Max. = 1060 mbar |

In the chamber for conducted measurements, the following limits were not exceeded during the test:

|                   |                                     |
|-------------------|-------------------------------------|
| Temperature       | Min. = 15 °C<br>Max. = 35 °C        |
| Relative humidity | Min. = 30 %<br>Max. = 60 %          |
| Air pressure      | Min. = 860 mbar<br>Max. = 1060 mbar |

## Remarks and comments

The tests have been performed by the technical personnel: Qi Zhang, Koji Nishimoto, and Victor Albrecht.



## Testing verdicts

|                |     |
|----------------|-----|
| Fail           | F   |
| Not applicable | N/A |
| Not measured   | N/M |
| Pass           | P   |

## Summary

| FCC PART 15 PARAGRAPH / RSS-247 (Bluetooth EDR)                                           |         |         |
|-------------------------------------------------------------------------------------------|---------|---------|
| Requirement – Test case                                                                   | Verdict | Remark  |
| FCC 15.247 (a) (1) / RSS-247 5.1 (b) - 20 dB Bandwidth                                    | N/M     | Refer 1 |
| FCC 2.1049 / RSS-GEN 6.7 - 99dBw Occupied Channel Bandwidth 99%                           | N/M     | Refer 1 |
| FCC 15.247 (a) (1) / RSS-247 5.1 (b) - Carrier Frequency Separation                       | N/M     | Refer 1 |
| FCC 15.247 (a) (1) (iii) / RSS-247 5.1 (d) - Time of Occupancy (Dwell Time)               | N/M     | Refer 1 |
| FCC 15.247 (a) (1) (iii) / RSS-247 5.1 (d) - Number of hopping channels                   | N/M     | Refer 1 |
| FCC 15.247 (b) (3) / RSS-247 5.4 (d) - Maximum Peak Conducted output power & Antenna gain | N/M     | Refer 1 |
| FCC 15.247 (d) / RSS-247 5.5 - Band-edge emissions compliance (Transmitter) - Conducted   | N/M     | Refer 1 |
| FCC 15.247 (d) / RSS-247 5.2 (b) - Power Spectral Density                                 | N/M     | Refer 1 |
| FCC 15.247 (d) / RSS-247 5.5 - Emissions compliance (Transmitter) - Conducted             | N/M     | Refer 1 |
| FCC 15.247 (d) / RSS-247 5.5 - Emissions compliance (Transmitter) - Radiated              | P       | -       |
| <u>Supplementary information and remarks:</u>                                             |         |         |
| 1. Only multi-transmitter radiated spurious emission test was requested.                  |         |         |

| FCC PART 90 PARAGRAPH / RSS-140 (Cellular)                                       |         |         |
|----------------------------------------------------------------------------------|---------|---------|
| Requirement – Test case                                                          | Verdict | Remark  |
| FCC 2.1046 and 90.542 - RF Output power                                          | N/M     | Refer 1 |
| FCC 2.1055 and 90.539 - Frequency stability                                      | N/M     | Refer 1 |
| FCC 2.1049 and 90.209 (7) - Occupied Bandwidth                                   | N/M     | Refer 1 |
| FCC 2.1053 and 90.543 - Spurious emissions at antenna terminals                  | N/M     | Refer 1 |
| FCC 90.531 (g) / 90.543 - Spurious emissions at antenna terminals at Block edges | N/M     | Refer 1 |
| FCC 2.1053 and 90.543 - Radiated emissions                                       | P       | -       |
| <u>Supplementary information and remarks:</u>                                    |         |         |
| 1. Only multi-transmitter radiated spurious emission test was requested.         |         |         |

| FCC PART 15 PARAGRAPH / RSS-247 (Wi-Fi 2.4GHz)                                            |         |         |
|-------------------------------------------------------------------------------------------|---------|---------|
| Requirement – Test case                                                                   | Verdict | Remark  |
| FCC 2.1049 / RSS-GEN 6.7 - 99dBw Occupied Channel Bandwidth 99%                           | N/M     | Refer 1 |
| FCC 15.247 (a) (2) / RSS-247 5.2 (a) - 6dB Bandwidth                                      | N/M     | Refer 1 |
| FCC 15.247 (b) (3) / RSS-247 5.4 (d) - Maximum Peak Conducted output power & Antenna gain | N/M     | Refer 1 |
| FCC 15.247 (d) / RSS-247 5.5 - Band-edge emissions compliance (Transmitter) - Conducted   | N/M     | Refer 1 |
| FCC 15.247 (d) / RSS-247 5.2 (b) - Power Spectral Density                                 | N/M     | Refer 1 |
| FCC 15.247 (d) / RSS-247 5.5 - Emissions compliance (Transmitter) - Conducted             | N/M     | Refer 1 |
| FCC 15.247 (d) / RSS-247 5.5 - Emissions compliance (Transmitter) - Radiated              | Pass    | N/A     |
| Supplementary information and remarks:                                                    |         |         |
| 1. Only multi-transmitter radiated spurious emission test was requested.                  |         |         |

| FCC PART 15 PARAGRAPH / RSS-247 (Wi-Fi 5GHz)                                          |         |         |
|---------------------------------------------------------------------------------------|---------|---------|
| Requirement – Test case                                                               | Verdict | Remark  |
| FCC 15.407 (a) / RSS-247 6.2 - Power Limits. Maximum Output Power                     | N/M     | Refer 1 |
| FCC 15.407 (a) / RSS-247 6.2 - Maximum Power Spectral Density                         | N/M     | Refer 1 |
| FCC 2.1049 / RSS-Gen 6.7 - 99% Occupied Bandwidth                                     | N/M     | Refer 1 |
| FCC 15.403 / RSS-Gen 6.7 - 26 dB Emission Bandwidth                                   | N/M     | Refer 1 |
| FCC 15.407 (b) / RSS-247 6.2 - Band-edge Conducted Emissions                          | N/M     | Refer 1 |
| FCC 15.407 (e) / RSS 247 6.2.4.1 - 6 dB Emission Bandwidth                            | N/M     | Refer 1 |
| FCC 15.407 (b), 15.205 & 15.209 / RSS-Gen 8.9 & 8.10 - Undesirable radiated emissions | Pass    | N/A     |
| Supplementary information and remarks:                                                |         |         |
| 1. Only multi-transmitter radiated spurious emission test was requested.              |         |         |

| FCC PART 15 PARAGRAPH / RSS-210 (Z-wave & Power G)                              |         |         |
|---------------------------------------------------------------------------------|---------|---------|
| Requirement – Test case                                                         | Verdict | Remark  |
| FCC 2.1049 / RSS-GEN 6.7 - 99dBw Occupied Channel Bandwidth 99%                 | N/M     | Refer 1 |
| FCC 15.249 (a) / RSS-210 B.10 (a) - Field Strength of fundamental               | N/M     | Refer 1 |
| FCC 15.249 (d) / RSS-210 B.10 (b) - Emission limitations radiated (Transmitter) | P       | -       |
| Supplementary information and remarks:                                          |         |         |
| 1. Only multi-transmitter radiated spurious emission test was requested.        |         |         |

## List of equipment used during the test

### Test Equipments for RE

| Control Num | Equipment                                               | Manufacturer    | Serial            | Model         | Next calibration |
|-------------|---------------------------------------------------------|-----------------|-------------------|---------------|------------------|
| 878         | DC Power supply                                         | Ametek Prog     | 1707A01783        | #N/A          | #N/A             |
| 1012        | ESR26 EMI Test Receiver                                 | Rohde & Schwarz | 101478            | ESR26         | 2025-01-18       |
| 1014        | FSV40 Signal Analyzer 40GHz                             | Rhode & Schwarz | 101626            | FSV40         | 2024-08-01       |
| 1056        | 3116C Double-Ridged Waveguide<br>Horn Antenna 18-40 GHz | Ets Lindgren    | 213179            | 3116C         | 2026-02-23       |
| 1057        | 3115 Double-Ridged Waveguide<br>Horn Antenna 1-18 GHz   | Ets Lindgren    | 211373            | 1908-07-11    | 2023-06-03       |
| 1065        | 3142E Biconilog Antenna                                 | Ets Lindgren    | 208587            | 3142E         | 2023-08-13       |
| 1108        | Ethernet SNMP Thermometer- CR<br>Room                   | Hw Group        | 60038026954       | HWg-STE Plain | 2024-10-18       |
| 1111        | Ethernet SNMP Thermometer- SAC                          | Hw Group        | 60038026577       | HWg-STE Plain | 2024-10-18       |
| 1179        | Semi-Anechoic Chamber                                   | Frankonia       | F169021           | SAC 3plus 'L' | N/A              |
| 1314        | Wireless Measurement Software R&S<br>EMC32              | Rohde & Schwarz | 1040-<br>OT102236 | -             | N/A              |

## Appendix A: FCC Multi-transmitters Test Results

## Appendix A Content

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|                                                             |    |
|-------------------------------------------------------------|----|
| PRODUCT INFORMATION .....                                   | 14 |
| TEST CONDITIONS .....                                       | 15 |
| TEST A.1: EMISSION LIMITATIONS RADIATED (TRANSMITTER) ..... | 16 |

## PRODUCT INFORMATION

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The following information is provided by the supplier

| Information                  | Description      |
|------------------------------|------------------|
| Modulation                   | FHSS             |
| Operation mode               |                  |
| - Operating Frequency Range  | 908-916 MHz      |
| - RF Output Power            | 14 dBm           |
| Extreme operating conditions |                  |
| - Temperature range          | 25 °C            |
| Antenna type                 | Integral Antenna |
| Antenna gain                 | +1.7 dBi         |
| Nominal Voltage              |                  |
| - Supply Voltage             | 18 Vdc           |
| - Type of power source       | DC Voltage       |
| Equipment type               | Z-wave           |

## TEST CONDITIONS

| TEST CONDITIONS                                                                                                                                                                                                                                                                            | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                        |                        |            |                  |      |             |     |   |      |                  |        |       |       |      |    |        |     |       |      |    |               |      |    |      |        |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|------------------------|------------|------------------|------|-------------|-----|---|------|------------------|--------|-------|-------|------|----|--------|-----|-------|------|----|---------------|------|----|------|--------|
| TC/01 <sup>(1)</sup>                                                                                                                                                                                                                                                                       | <u>Power supply (V):</u><br>18 Vdc                                                                                                                                                                                                                                                                                                                                                                                                                            |                        |                        |            |                  |      |             |     |   |      |                  |        |       |       |      |    |        |     |       |      |    |               |      |    |      |        |
|                                                                                                                                                                                                                                                                                            | <u>Test Frequencies for Radiated tests:</u>                                                                                                                                                                                                                                                                                                                                                                                                                   |                        |                        |            |                  |      |             |     |   |      |                  |        |       |       |      |    |        |     |       |      |    |               |      |    |      |        |
|                                                                                                                                                                                                                                                                                            | <table><tr><th>Technology</th><th>Tested Frequency (MHz)</th><th>BW (MHz)</th><th>Modulation</th><th>Mode</th></tr><tr><td>LTE Band 14</td><td>793</td><td>5</td><td>QPSK</td><td>12 RB, OFFSET 11</td></tr><tr><td>Z-Wave</td><td>908.4</td><td>0.143</td><td>GFSK</td><td>--</td></tr><tr><td>PowerG</td><td>916</td><td>0.100</td><td>GFSK</td><td>--</td></tr><tr><td>Wi-Fi 2.4 GHz</td><td>2437</td><td>40</td><td>OFDM</td><td>n mode</td></tr></table> | Technology             | Tested Frequency (MHz) | BW (MHz)   | Modulation       | Mode | LTE Band 14 | 793 | 5 | QPSK | 12 RB, OFFSET 11 | Z-Wave | 908.4 | 0.143 | GFSK | -- | PowerG | 916 | 0.100 | GFSK | -- | Wi-Fi 2.4 GHz | 2437 | 40 | OFDM | n mode |
|                                                                                                                                                                                                                                                                                            | Technology                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Tested Frequency (MHz) | BW (MHz)               | Modulation | Mode             |      |             |     |   |      |                  |        |       |       |      |    |        |     |       |      |    |               |      |    |      |        |
|                                                                                                                                                                                                                                                                                            | LTE Band 14                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 793                    | 5                      | QPSK       | 12 RB, OFFSET 11 |      |             |     |   |      |                  |        |       |       |      |    |        |     |       |      |    |               |      |    |      |        |
|                                                                                                                                                                                                                                                                                            | Z-Wave                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 908.4                  | 0.143                  | GFSK       | --               |      |             |     |   |      |                  |        |       |       |      |    |        |     |       |      |    |               |      |    |      |        |
|                                                                                                                                                                                                                                                                                            | PowerG                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 916                    | 0.100                  | GFSK       | --               |      |             |     |   |      |                  |        |       |       |      |    |        |     |       |      |    |               |      |    |      |        |
| Wi-Fi 2.4 GHz                                                                                                                                                                                                                                                                              | 2437                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 40                     | OFDM                   | n mode     |                  |      |             |     |   |      |                  |        |       |       |      |    |        |     |       |      |    |               |      |    |      |        |
| The test was performed with the equipment transmitting with Cellular, Z-wave, PowerG and Wi-Fi 2.4GHz radios simultaneously. These measurements have been performed in order to check the impact of the multi-transmitter of all radio interfaces that can be transmitting simultaneously. |                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                        |                        |            |                  |      |             |     |   |      |                  |        |       |       |      |    |        |     |       |      |    |               |      |    |      |        |
|                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                        |                        |            |                  |      |             |     |   |      |                  |        |       |       |      |    |        |     |       |      |    |               |      |    |      |        |
|                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                        |                        |            |                  |      |             |     |   |      |                  |        |       |       |      |    |        |     |       |      |    |               |      |    |      |        |
|                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                        |                        |            |                  |      |             |     |   |      |                  |        |       |       |      |    |        |     |       |      |    |               |      |    |      |        |
| TEST CONDITIONS                                                                                                                                                                                                                                                                            | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                        |                        |            |                  |      |             |     |   |      |                  |        |       |       |      |    |        |     |       |      |    |               |      |    |      |        |
| TC/02 <sup>(1)</sup>                                                                                                                                                                                                                                                                       | <u>Power supply (V):</u><br>18 Vdc                                                                                                                                                                                                                                                                                                                                                                                                                            |                        |                        |            |                  |      |             |     |   |      |                  |        |       |       |      |    |        |     |       |      |    |               |      |    |      |        |
|                                                                                                                                                                                                                                                                                            | <u>Test Frequencies for Radiated tests:</u>                                                                                                                                                                                                                                                                                                                                                                                                                   |                        |                        |            |                  |      |             |     |   |      |                  |        |       |       |      |    |        |     |       |      |    |               |      |    |      |        |
|                                                                                                                                                                                                                                                                                            | <table><tr><th>Technology</th><th>Tested Frequency (MHz)</th><th>BW (MHz)</th><th>Modulation</th><th>Mode</th></tr><tr><td>LTE Band 14</td><td>793</td><td>5</td><td>QPSK</td><td>12 RB, OFFSET 11</td></tr><tr><td>Z-Wave</td><td>908.4</td><td>0.143</td><td>GFSK</td><td>--</td></tr><tr><td>PowerG</td><td>916</td><td>0.100</td><td>GFSK</td><td>--</td></tr><tr><td>Wi-Fi 5 GHz</td><td>5670</td><td>40</td><td>OFDM</td><td>n mode</td></tr></table>   | Technology             | Tested Frequency (MHz) | BW (MHz)   | Modulation       | Mode | LTE Band 14 | 793 | 5 | QPSK | 12 RB, OFFSET 11 | Z-Wave | 908.4 | 0.143 | GFSK | -- | PowerG | 916 | 0.100 | GFSK | -- | Wi-Fi 5 GHz   | 5670 | 40 | OFDM | n mode |
|                                                                                                                                                                                                                                                                                            | Technology                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Tested Frequency (MHz) | BW (MHz)               | Modulation | Mode             |      |             |     |   |      |                  |        |       |       |      |    |        |     |       |      |    |               |      |    |      |        |
|                                                                                                                                                                                                                                                                                            | LTE Band 14                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 793                    | 5                      | QPSK       | 12 RB, OFFSET 11 |      |             |     |   |      |                  |        |       |       |      |    |        |     |       |      |    |               |      |    |      |        |
|                                                                                                                                                                                                                                                                                            | Z-Wave                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 908.4                  | 0.143                  | GFSK       | --               |      |             |     |   |      |                  |        |       |       |      |    |        |     |       |      |    |               |      |    |      |        |
|                                                                                                                                                                                                                                                                                            | PowerG                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 916                    | 0.100                  | GFSK       | --               |      |             |     |   |      |                  |        |       |       |      |    |        |     |       |      |    |               |      |    |      |        |
| Wi-Fi 5 GHz                                                                                                                                                                                                                                                                                | 5670                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 40                     | OFDM                   | n mode     |                  |      |             |     |   |      |                  |        |       |       |      |    |        |     |       |      |    |               |      |    |      |        |
| The test was performed with the equipment transmitting with Cellular, Z-wave, PowerG and Wi-Fi 5GHz radios simultaneously. These measurements have been performed in order to check the impact of the multi-transmitter of all radio interfaces that can be transmitting simultaneously.   |                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                        |                        |            |                  |      |             |     |   |      |                  |        |       |       |      |    |        |     |       |      |    |               |      |    |      |        |
|                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                        |                        |            |                  |      |             |     |   |      |                  |        |       |       |      |    |        |     |       |      |    |               |      |    |      |        |
|                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                        |                        |            |                  |      |             |     |   |      |                  |        |       |       |      |    |        |     |       |      |    |               |      |    |      |        |
| TEST CONDITIONS                                                                                                                                                                                                                                                                            | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                        |                        |            |                  |      |             |     |   |      |                  |        |       |       |      |    |        |     |       |      |    |               |      |    |      |        |
| TC/03 <sup>(1)</sup>                                                                                                                                                                                                                                                                       | <u>Power supply (V):</u><br>18 Vdc                                                                                                                                                                                                                                                                                                                                                                                                                            |                        |                        |            |                  |      |             |     |   |      |                  |        |       |       |      |    |        |     |       |      |    |               |      |    |      |        |
|                                                                                                                                                                                                                                                                                            | <u>Test Frequencies for Radiated tests:</u>                                                                                                                                                                                                                                                                                                                                                                                                                   |                        |                        |            |                  |      |             |     |   |      |                  |        |       |       |      |    |        |     |       |      |    |               |      |    |      |        |
|                                                                                                                                                                                                                                                                                            | <table><tr><th>Technology</th><th>Tested Frequency (MHz)</th><th>BW (MHz)</th><th>Modulation</th><th>Mode</th></tr><tr><td>LTE Band 14</td><td>793</td><td>5</td><td>QPSK</td><td>12 RB, OFFSET 11</td></tr><tr><td>Z-Wave</td><td>908.4</td><td>0.143</td><td>GFSK</td><td>--</td></tr><tr><td>PowerG</td><td>916</td><td>0.100</td><td>GFSK</td><td>--</td></tr><tr><td>BLE 2.4 GHz</td><td>2402</td><td>2</td><td>GFSK</td><td>1 mbps</td></tr></table>    | Technology             | Tested Frequency (MHz) | BW (MHz)   | Modulation       | Mode | LTE Band 14 | 793 | 5 | QPSK | 12 RB, OFFSET 11 | Z-Wave | 908.4 | 0.143 | GFSK | -- | PowerG | 916 | 0.100 | GFSK | -- | BLE 2.4 GHz   | 2402 | 2  | GFSK | 1 mbps |
|                                                                                                                                                                                                                                                                                            | Technology                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Tested Frequency (MHz) | BW (MHz)               | Modulation | Mode             |      |             |     |   |      |                  |        |       |       |      |    |        |     |       |      |    |               |      |    |      |        |
|                                                                                                                                                                                                                                                                                            | LTE Band 14                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 793                    | 5                      | QPSK       | 12 RB, OFFSET 11 |      |             |     |   |      |                  |        |       |       |      |    |        |     |       |      |    |               |      |    |      |        |
|                                                                                                                                                                                                                                                                                            | Z-Wave                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 908.4                  | 0.143                  | GFSK       | --               |      |             |     |   |      |                  |        |       |       |      |    |        |     |       |      |    |               |      |    |      |        |
|                                                                                                                                                                                                                                                                                            | PowerG                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 916                    | 0.100                  | GFSK       | --               |      |             |     |   |      |                  |        |       |       |      |    |        |     |       |      |    |               |      |    |      |        |
| BLE 2.4 GHz                                                                                                                                                                                                                                                                                | 2402                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 2                      | GFSK                   | 1 mbps     |                  |      |             |     |   |      |                  |        |       |       |      |    |        |     |       |      |    |               |      |    |      |        |
| The test was performed with the equipment transmitting with Cellular, Z-wave, PowerG and BLE radios simultaneously. These measurements have been performed in order to check the impact of the multi-transmitter of all radio interfaces that can be transmitting simultaneously.          |                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                        |                        |            |                  |      |             |     |   |      |                  |        |       |       |      |    |        |     |       |      |    |               |      |    |      |        |
|                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                        |                        |            |                  |      |             |     |   |      |                  |        |       |       |      |    |        |     |       |      |    |               |      |    |      |        |
|                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                        |                        |            |                  |      |             |     |   |      |                  |        |       |       |      |    |        |     |       |      |    |               |      |    |      |        |

Note (1): The following tables and plots show the results for the worst case in LTE, Z-Wave, Power G, BLE, Wi-Fi 2.4 GHz, and Wi-Fi 5 GHz

## TEST A.1: EMISSION LIMITATIONS RADIATED (TRANSMITTER)

|                |                   |                                                                                                           |
|----------------|-------------------|-----------------------------------------------------------------------------------------------------------|
| <b>LIMITS:</b> | Product standard: | USA FCC Part 15.207, 15.209, 15.247, 15.249, 15.407, Part 90<br>CANADA RSS-247, RSS-210, RSS-140, RSS-Gen |
|                | Test standard:    | USA FCC Part 15.207, 15.209, 15.247, 15.249, 15.407, Part 90<br>CANADA RSS-247, RSS-210, RSS-140, RSS-Gen |

### LIMITS

Radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c) / RSS-Gen):

| Frequency Range (MHz) | Field strength (μV/m) | Field strength (dBμV/m) | Measurement distance (m) |
|-----------------------|-----------------------|-------------------------|--------------------------|
| 0.009-0.490           | 2400/F(kHz)           | -                       | 300                      |
| 0.490-1.705           | 24000/F(kHz)          | -                       | 30                       |
| 1.705 - 30.0          | 30                    | -                       | 30                       |
| 30 - 88               | 100                   | 40                      | 3                        |
| 88 - 216              | 150                   | 43.5                    | 3                        |
| 216 - 960             | 200                   | 46                      | 3                        |
| 960 - 25000           | 500                   | 54                      | 3                        |

The emission limits shown in the above table are based on measurements employing CISPR quasi-peak detector except for the frequency bands 9-90 kHz, 110-490 kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector.

For average radiated emission measurements above 1000 MHz, there is also a limit corresponding to 20 dB above the indicated values in the table is specified when measuring with peak detector function.

### TEST SETUP

All radiated tests were performed in a semi-anechoic chamber. The measurement antenna is situated at 3 m for the frequency range 30-1000 MHz (Bilog antenna) and 1-18 GHz (Double ridge horn antenna), and 1m for the frequency range 18 GHz- 40 GHz (Double ridge horn antenna).

For radiated emissions in the range 18 - 40 GHz that is performed at a distance closer than the specified distance, an inverse proportionality factor of 20 dB per decade is used to normalize the measured data for determining compliance.

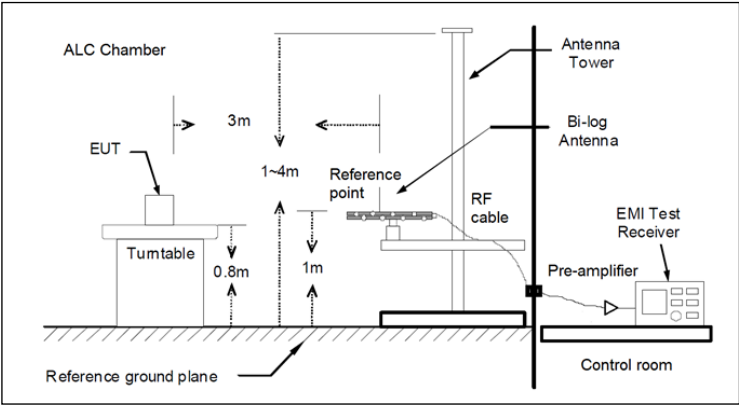
The equipment under test was set up on a non-conductive platform above the ground plane and the situation and orientation was varied to find the maximum radiated emission. It was also rotated 360° and the antenna height was varied from 1 to 4 meters to find the maximum radiated emission.

Measurements were made in both horizontal and vertical planes of polarization.

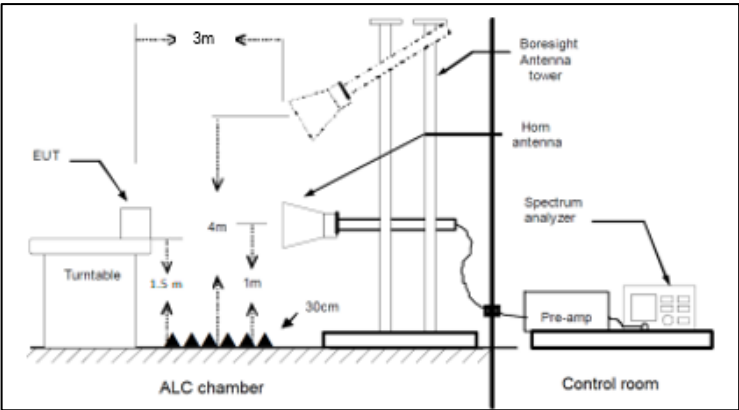
The field strength is calculated by adding correction factor to the measured level from the spectrum analyzer. This correction factor includes antenna factor, cable loss and pre-amplifiers gain.



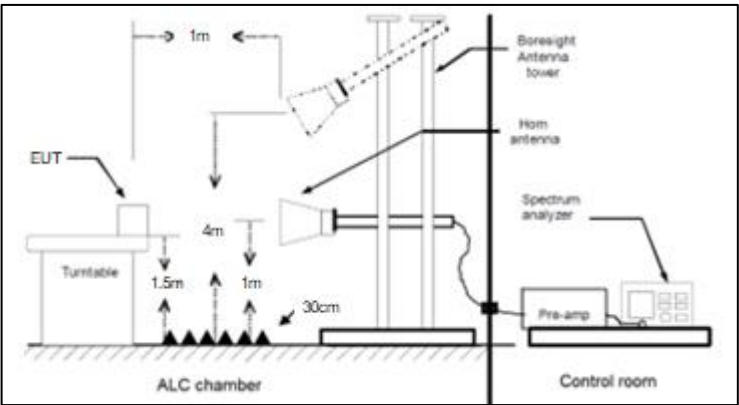
TEST SETUP (CONT.)



Radiated measurements Setup  $f < 1 \text{ GHz}$

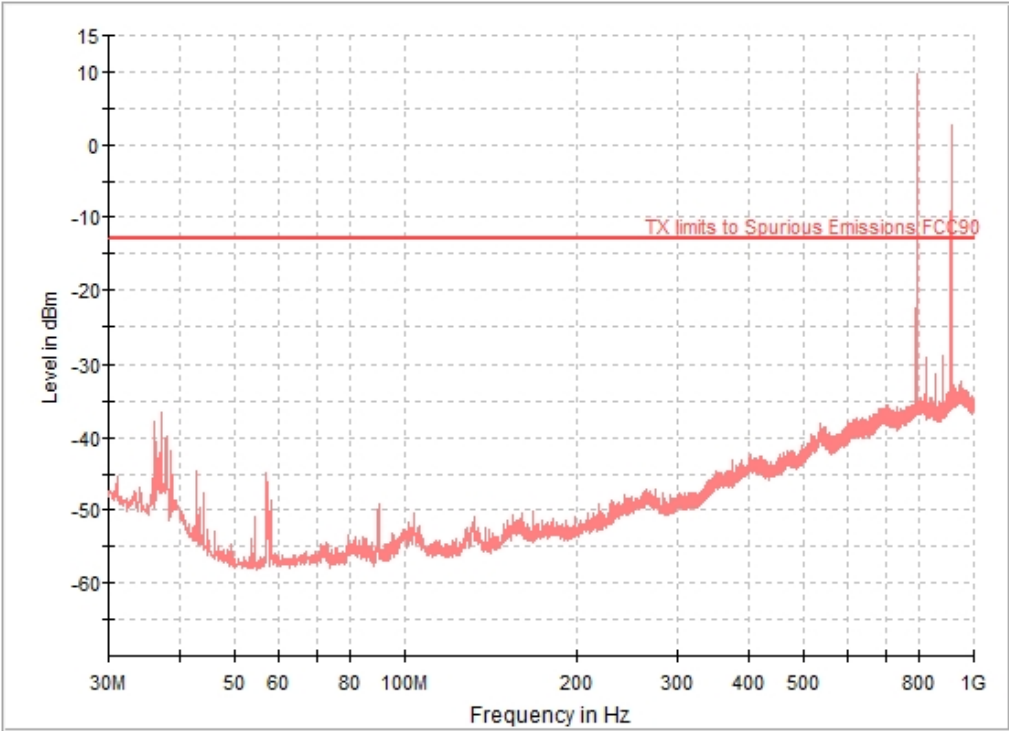


Radiated measurements setup  $f > 1\text{-}18 \text{ GHz}$



Radiated measurements setup  $f > 18 \text{ GHz}$

|                          |               |
|--------------------------|---------------|
| TESTED SAMPLES:          | S/01          |
| TESTED CONDITIONS MODES: | TC/01         |
| TEST RESULTS :           | 0.030 - 1 GHz |
| VERDICT:                 | PASS          |

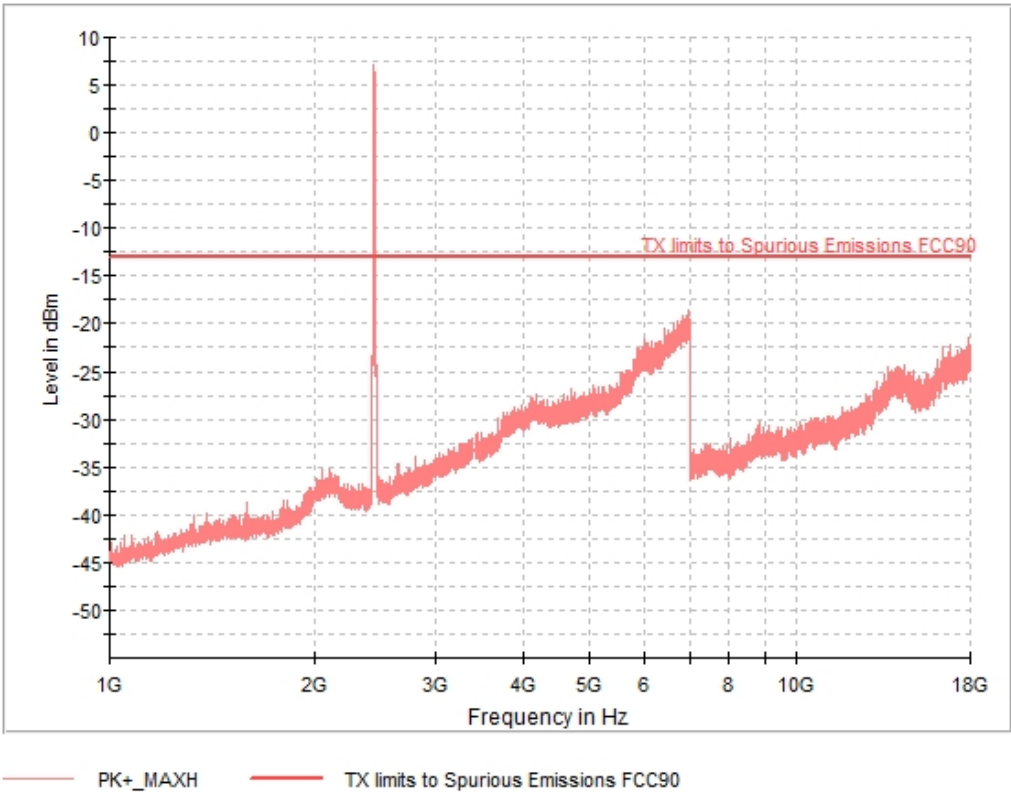


PK+\_MAXH TX limits to Spurious Emissions FCC90

| Frequency (MHz) | PK+_MAXH (dBm) | Pol | Margin - PK+ (dB) | Limit - PK+ (dBm) | Comment    |
|-----------------|----------------|-----|-------------------|-------------------|------------|
| 37.081000       | -36.5          | V   | 23.5              | -13.0             |            |
| 56.966000       | -44.8          | V   | 31.8              | -13.0             |            |
| 793.002000      | 9.7            | V   | ---               | ---               | LTE Uplink |
| 878.653000      | -29.0          | V   | 16.0              | -13.0             |            |
| 908.335000      | -9.2           | H   | ---               | ---               | Z-Wave     |
| 915.901000      | 2.8            | H   | ---               | ---               | PowerG     |

TEST RESULTS (Cont.):

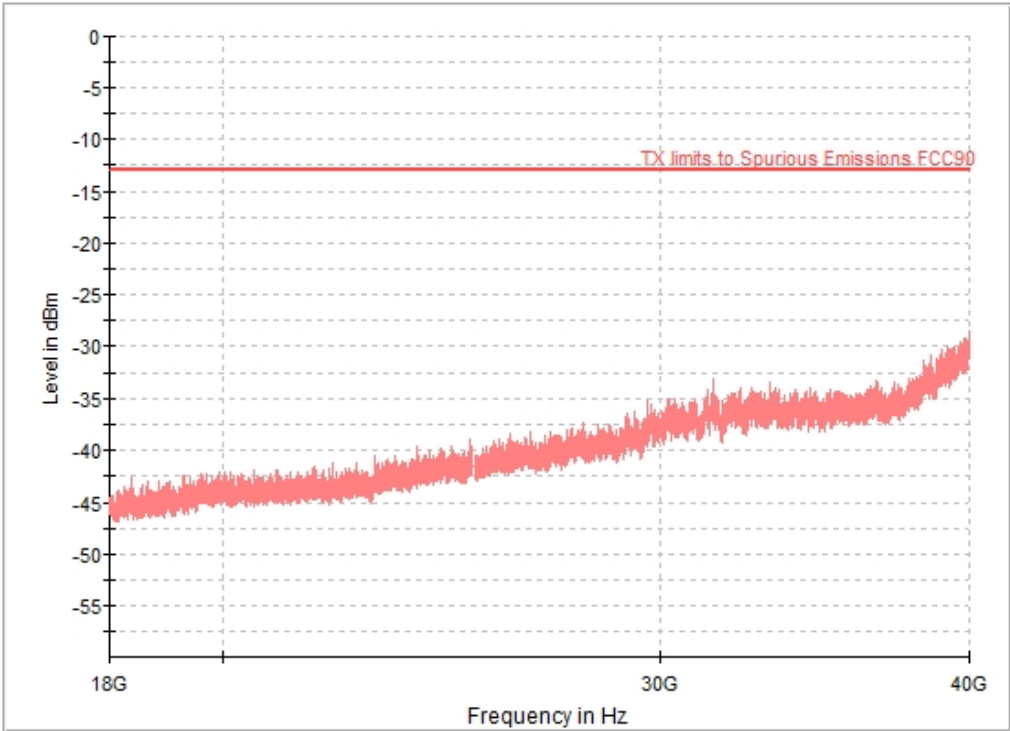
1 - 18 GHz



| Frequency (MHz) | PK+_MAXH (dBm) | PoI | Margin - PK+ (dB) | Limit - PK+ (dBm) | Comment              |
|-----------------|----------------|-----|-------------------|-------------------|----------------------|
| 2429.500000     | 7.1            | H   | ---               | ---               | WiFi 2.4 Fundamental |
| 6961.000000     | -18.7          | H   | 5.7               | -13.0             |                      |
| 16833.000000    | -22.4          | V   | 9.4               | -13.0             |                      |

TEST RESULTS (Cont.):

18 - 40 GHz



PK+\_MAXH TX limits to Spurious Emissions FCC90

| Frequency (MHz) | PK+_MAXH (dBm) | Pol | Margin - PK+ (dB) | Limit - PK+ (dBm) |
|-----------------|----------------|-----|-------------------|-------------------|
| 33239.812500    | -33.4          | V   | 25.9              | -13.0             |

Spectrum Analyzer Parameters

| Subrange       | Detectors | Bandwidth | Preamp |
|----------------|-----------|-----------|--------|
| 30 MHz - 1 GHz | PK+       | 100 kHz   | 20 dB  |

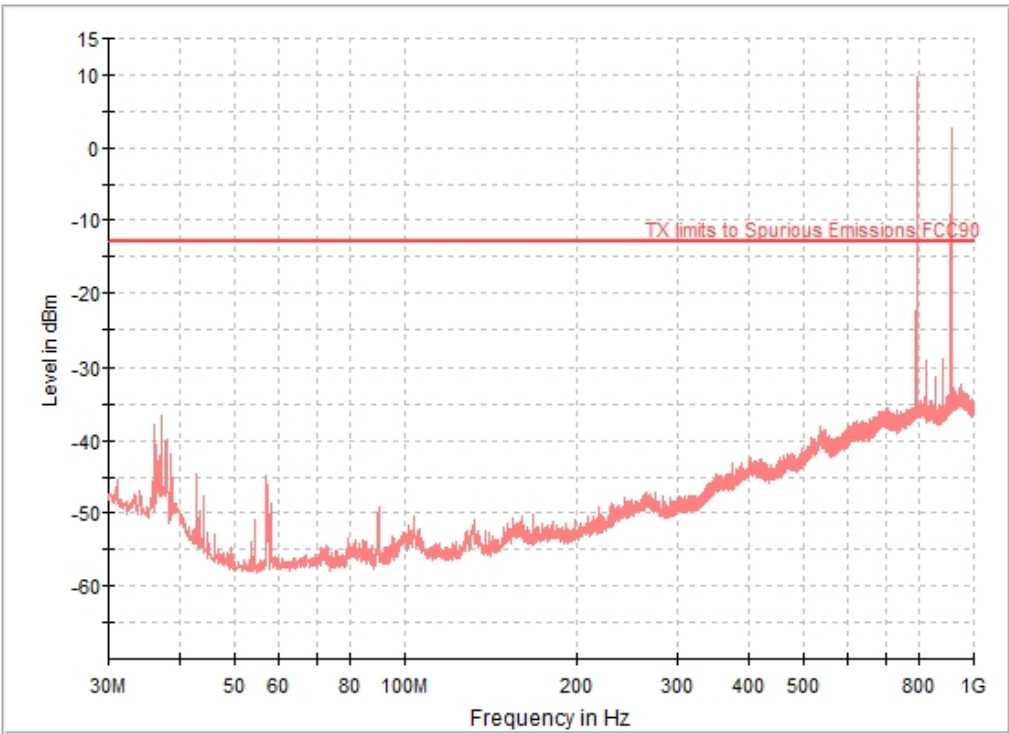
Spectrum Analyzer Parameters

| Subrange       | Detectors | Bandwidth | Preamp |
|----------------|-----------|-----------|--------|
| 1 GHz - 7 GHz  | PK+ ; AVG | 1 MHz     | 20 dB  |
| 7 GHz - 18 GHz | PK+ ; AVG | 1 MHz     | 20 dB  |

Spectrum Analyzer Parameters

| Subrange        | Detectors | Bandwidth | Preamp |
|-----------------|-----------|-----------|--------|
| 18 GHz - 40 GHz | PK+ ; AVG | 1 MHz     | 20 dB  |

|                          |               |
|--------------------------|---------------|
| TESTED SAMPLES:          | S/01          |
| TESTED CONDITIONS MODES: | TC/02         |
| TEST RESULTS :           | 0.030 - 1 GHz |
| VERDICT:                 | PASS          |

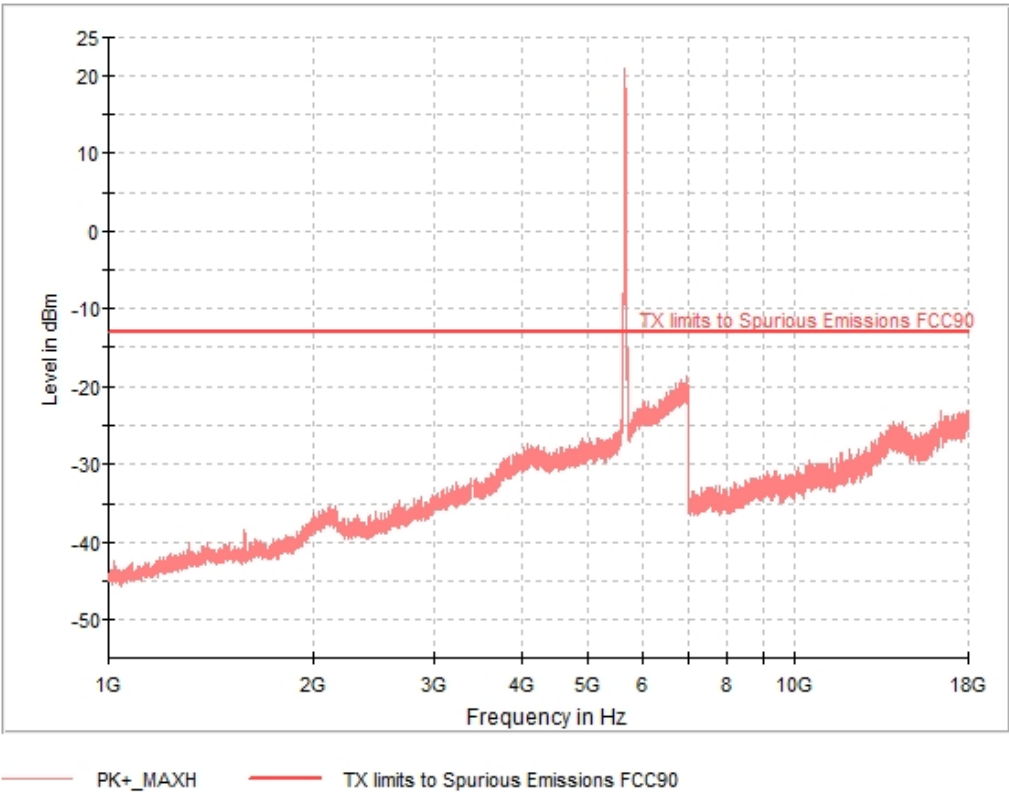


PK+\_MAXH TX limits to Spurious Emissions FCC90

| Frequency (MHz) | PK+_MAXH (dBm) | Pol | Margin - PK+ (dB) | Limit - PK+ (dBm) | Comment    |
|-----------------|----------------|-----|-------------------|-------------------|------------|
| 37.081000       | -36.5          | V   | 23.5              | -13.0             |            |
| 56.966000       | -44.8          | V   | 31.8              | -13.0             |            |
| 793.002000      | 9.7            | V   | ---               | ---               | LTE Uplink |
| 878.653000      | -29.0          | V   | 16.0              | -13.0             |            |
| 908.335000      | -9.2           | H   | ---               | ---               | Z-Wave     |
| 915.901000      | 2.8            | H   | ---               | ---               | PowerG     |

TEST RESULTS :

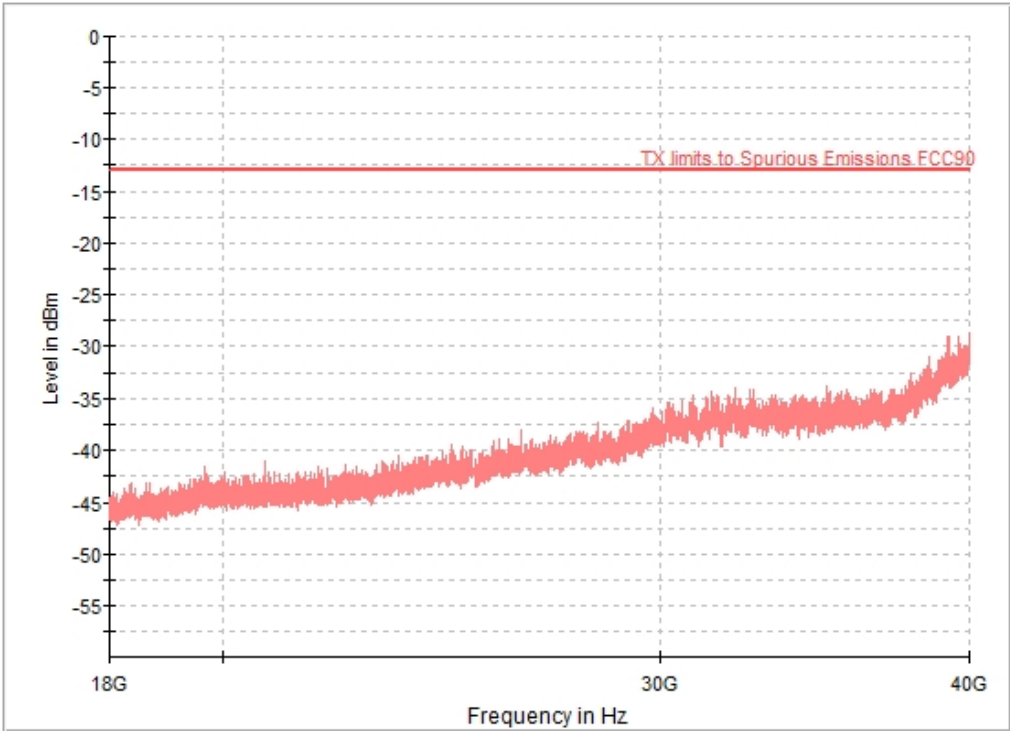
1 - 18 GHz



| Frequency (MHz) | PK+_MAXH (dBm) | Pol | Margin - PK+ (dB) | Limit - PK+ (dBm) | Comment             |
|-----------------|----------------|-----|-------------------|-------------------|---------------------|
| 5657.500000     | 20.9           | H   | ---               | ---               | WiFi 5G Fundamental |
| 6988.000000     | -18.5          | H   | 5.5               | -13.0             |                     |
| 17851.500000    | -23.1          | H   | 10.1              | -13.0             |                     |

TEST RESULTS (Cont.):

18 - 40 GHz



PK+\_MAXH TX limits to Spurious Emissions FCC90

| Frequency (MHz) | PK+_MAXH (dBm) | Pol | Margin - PK+ (dB) | Limit - PK+ (dBm) |
|-----------------|----------------|-----|-------------------|-------------------|
| 38530.812500    | -31.0          | V   | 24.7              | -13.0             |

Spectrum Analyzer Parameters

| Subrange       | Detectors | Bandwidth | Preamp |
|----------------|-----------|-----------|--------|
| 30 MHz - 1 GHz | PK+       | 100 kHz   | 20 dB  |

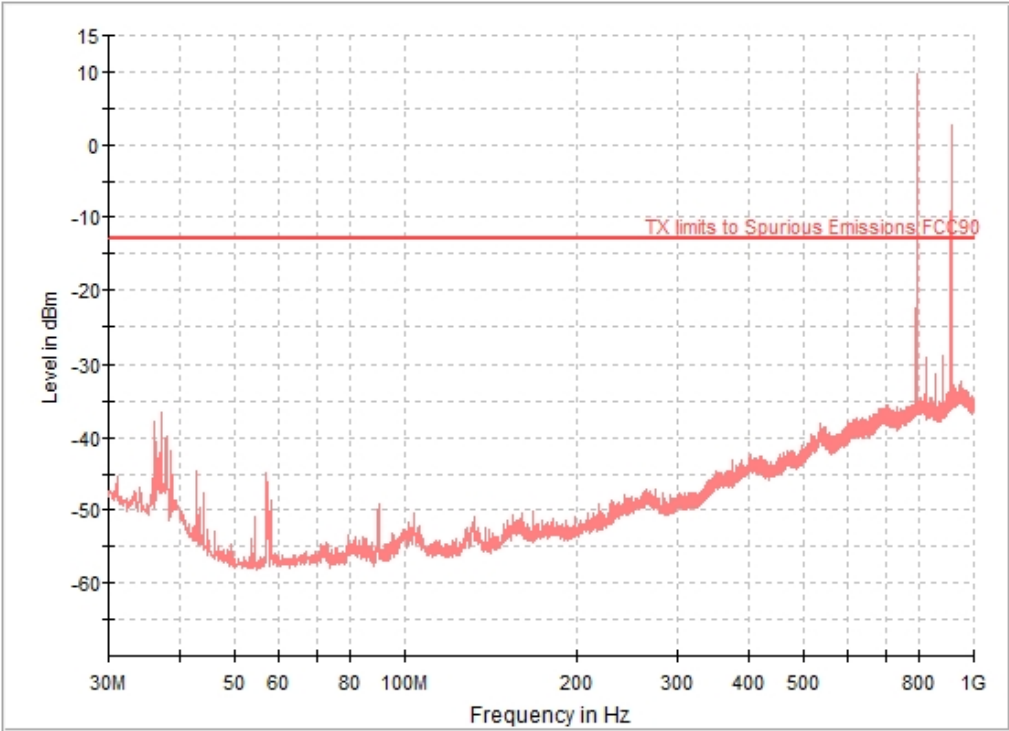
Spectrum Analyzer Parameters

| Subrange       | Detectors | Bandwidth | Preamp |
|----------------|-----------|-----------|--------|
| 1 GHz - 7 GHz  | PK+ ; AVG | 1 MHz     | 20 dB  |
| 7 GHz - 18 GHz | PK+ ; AVG | 1 MHz     | 20 dB  |

Spectrum Analyzer Parameters

| Subrange        | Detectors | Bandwidth | Preamp |
|-----------------|-----------|-----------|--------|
| 18 GHz - 40 GHz | PK+ ; AVG | 1 MHz     | 20 dB  |

|                          |               |
|--------------------------|---------------|
| TESTED SAMPLES:          | S/01          |
| TESTED CONDITIONS MODES: | TC/03         |
| TEST RESULTS :           | 0.030 - 1 GHz |
| VERDICT:                 | PASS          |



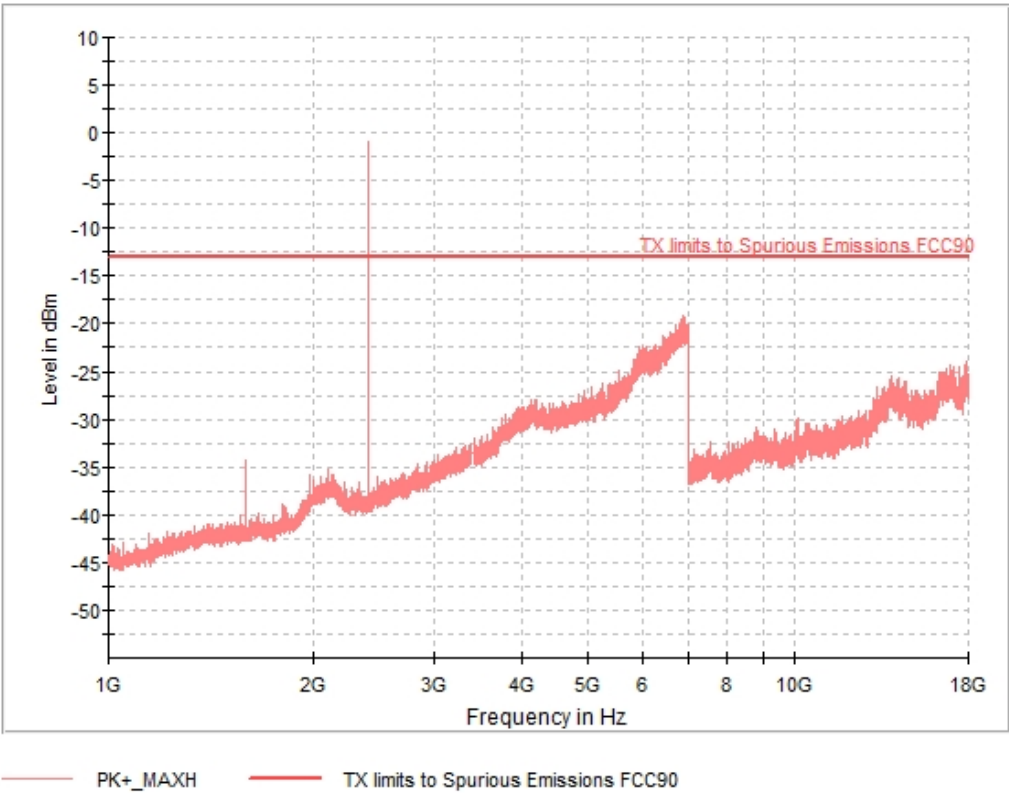
PK+\_MAXH TX limits to Spurious Emissions FCC90

| Frequency (MHz) | PK+_MAXH (dBm) | Pol | Margin - PK+ (dB) | Limit - PK+ (dBm) | Comment    |
|-----------------|----------------|-----|-------------------|-------------------|------------|
| 37.081000       | -36.5          | V   | 23.5              | -13.0             |            |
| 56.966000       | -44.8          | V   | 31.8              | -13.0             |            |
| 793.002000      | 9.7            | V   | ---               | ---               | LTE Uplink |
| 878.653000      | -29.0          | V   | 16.0              | -13.0             |            |
| 908.335000      | -9.2           | H   | ---               | ---               | Z-Wave     |
| 915.901000      | 2.8            | H   | ---               | ---               | PowerG     |



TEST RESULTS :

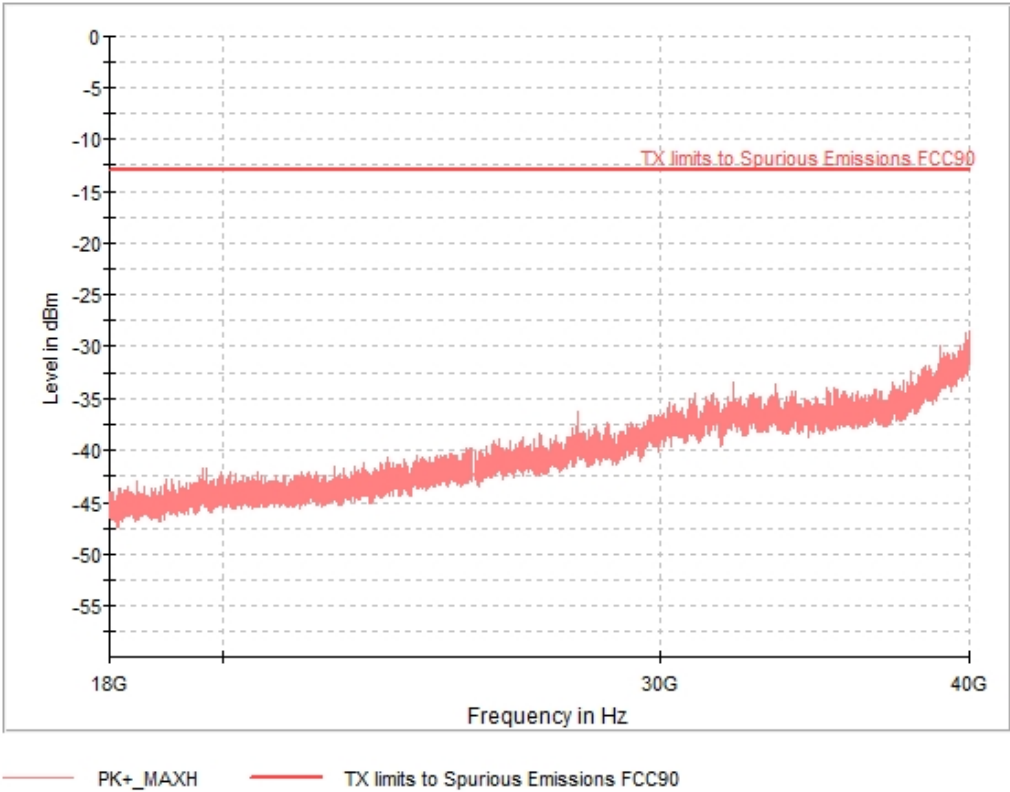
1 - 18 GHz



| Frequency (MHz) | PK+_MAXH (dBm) | Pol | Margin - PK+ (dB) | Limit - PK+ (dBm) | Comment         |
|-----------------|----------------|-----|-------------------|-------------------|-----------------|
| 1586.000000     | -34.2          | V   | 21.2              | -13.0             |                 |
| 2401.500000     | -0.9           | H   | 12.1              | -13.0             | BLE Fundamental |

TEST RESULTS (Cont.):

18 - 40 GHz



| Frequency (MHz) | PK+_MAXH (dBm) | Pol | Margin - PK+ (dB) | Limit - PK+ (dBm) |
|-----------------|----------------|-----|-------------------|-------------------|
| 39874.187500    | -28.8          | V   | 22.7              | -13.0             |

Spectrum Analyzer Parameters

| Subrange       | Detectors | Bandwidth | Preamp |
|----------------|-----------|-----------|--------|
| 30 MHz - 1 GHz | PK+       | 100 kHz   | 20 dB  |

Spectrum Analyzer Parameters

| Subrange       | Detectors | Bandwidth | Preamp |
|----------------|-----------|-----------|--------|
| 1 GHz - 7 GHz  | PK+ ; AVG | 1 MHz     | 20 dB  |
| 7 GHz - 18 GHz | PK+ ; AVG | 1 MHz     | 20 dB  |

Spectrum Analyzer Parameters

| Subrange        | Detectors | Bandwidth | Preamp |
|-----------------|-----------|-----------|--------|
| 18 GHz - 40 GHz | PK+ ; AVG | 1 MHz     | 20 dB  |